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Q1. Isothermal Process में Heat Transfer होगी:-

- a) Less than the work transfer b) Equal to work transfer
c) Less or equal to work transfer c) More than work transfer

Q2. एक Heat engine 1000 KJ heat receives करता है और 600 KJ work output आता है तब Rejected heat तथा efficiency है:-

- a) 400,40% B) 400,60% c) 600,40% d) 600,60%

Q3. Cannot engine की efficiency निर्भर रहती है:-

- a) The Nature of the working fluid b) Capacity of engine
c) The duration of working of the engine d) Temperature limit of working fluid

Q4. Triple point पर है :-

- a) 3 Thermal properties b) Three state in equilibrium
c) Three or more mode of energy transfer d) 3 D.O.F

Q5. Pressure Increase होने पर Vapour की Saturation temperature:-

- a) Increase b) Decreases
c) Increase first then Decrease d) decrease first and then increase

Q6. Diff B/w Super Heated Steam Temperature व Liquid Vapour Temperature किसी Pressure पर :-

- a) Degree of super heat b) Limit of super heat
c) Approach of super heat d) Extent of super heat

Q7. First Law of thermodynamics के अनुसार :-

- a) $\sum W < \sum Q$ b) $\sum W > \sum Q$ c) $\sum Q = \sum W$ d) None

Q8. The P-V Dig for none flow process is:-

- a) Heat Transfer b) Mass Transfer c) Work Transfer d) Entropy Transfer

Q9. Heat engine is a device that operate on cycle:-

- a) Heat supply convert into work energy under reversible

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b) Heat supply convert into work energy under All condition

c) To produce useful work for heat received from a source and Remaining Reject to sink under all condition

d) None

Q10. एक Reversible heat engine 100kw work developed करता है तथा उसकी efficiency 20% है, तब Source से Heat transfer तथा sink को भेजी कितने है:- inkw

a) 200,100 b) 300,200 c) 500,400 d) 1000,900

Q11. Isobaric heating process में T1 to T2 पर entrophy change:-

a) $mcp \ln T_2/T_1$ b) $mcp(T_2-T_1)$ c) $mcp(T_2-T_1)/T_0$ d) $mcp(T_2+T_1)$

Q12. एक Fluid flow from low level (z_1, P_1) से High level (z_2, P_2) तब:-

a) 1st Low violated b) 2nd Low violated c) $z_2 < z_1$ d) $P_2 < P_1$

Q13. Adiabatic process में:-

a) Adiabatic heat transfer b) No heat transfer

c) No energy transfer d) No internal energy

Q14. Isothermal process में, internal energy:-

a) Increase b) Decrease c) Increase or decrease d) constant

Q15. For ideal gas, compressibility factor:-

a) 0 b) ∞ c) 1 d) None

Q16. Const temperature पर Wet Steam को Heat करने पर Const रहेगा:-

a) Entropy b) Pressure c) volume d) Enthalpy

Q17. Extensive property है:-

a) Temperature b) Pressure c) Density d) Enthalpy

Q18. Latent heat of water rat 100°C is 2560 KJ/KG, तब change of entropy is

a) -25.6 KJ/KG-k b) 25.6KJ/KG-k c) 256×10 KJ/KG

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Q19 Closed system के लिए, Heat Addition तथा Work done का Different is equal to change in:-

- a) Entropy b) Temperature c) Internal energy d) Enthalpy

Q20. No Heat enter or leave then system is:-

- a) Isentropic b) isobaric c) isochoric d) isothermal

Q21. किस के लिए Adiabatic index high रहेगा:-

- a) Helium b) Nitrogen c) Oxygen d) methane

Q22. Ideal gas के लिए, $R = .280 \text{ KJ/KgK}$, $W = 1375$, तब c_p व c_v हैं, in KJ/KgK

- a) 125,.8 b) 1.0267, .7467 c) 1.11,.66 d) 12,.70

Q23. Isothermal process में:-

- a) Temperature const b) Heat Transfer is 0 c) Internal energy Decrease d) $P \propto V$

Q24. $\int p \, d v$ Work is :-

- a) Steady flow Reversible process b) Non flow Rev. Process
c) Open system and any process d) Any system tem and any process

Q25. यदि Two liquid जो अलग-अलग temperature पर हैं, mixed किया जाये तब उस mixture का final temperature obtain किया जायेगा:-

- a) zeroth law of the thermodynamic b) 1st law
c) 2nd law d) 3rd law

Q26. For an irreversible cycle:-

- a) $\int dQ/T > 0$ b) $\int dQ/T < 0$ c) $\int dQ \geq 0$ d) $\int dQ/T \leq 0$

Q27. Enthalpy of evaporation of water:-

- a) Decrease with increase pressure b) decrease with Decrease pressure
c) Increase const by change pressure

Q28. Throttling process में const है:-

- a) S b) H c) A d) c

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Q29. कौन intensive property है:-

- a) specific enthalpy b) volume c) kinetic energy d) entropy

Q30. Heat supply to a system equal to work done in closed non flow process carried out:-

- a) isothermally b) Adiabatically c) isobaric ally d) none

Q31. एक Heat engine को 283°C fixed temperature से 278 Kw heat supplied करता है, Heat rejection, क्या है in kw

- a) 139 b) 208 c) 35 d) 70

Q32. Critical pressure for steam is:-

- a) 252 bar b) 225 bar c) 184 bar d) 163 bar

Q33. Heat engine की max efficiency, 327°C व 27°C पर होगी:-

- a) $\frac{3}{4}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$ d) $\frac{1}{4}$

Q34. Free expansion में:-

- a) $w=0$ b) P const c) T const d) $Q=0$

Q35. No ass No energy allow to cross the system boundary it is:-

- a) open system b) isolated system c) universe d) closed system

Q36. Not a property:-

- a) Temperature b) heat c) Pressure d) Specific volume

Q37. Path function is:-

- a) Temperature b) Work c) Pressure d) enthalpy

Q38. $Ds=dQ/T$, good in case of:-

- a) irreversible process b) don't depend on reversibility
c) all Real process d) Reversible process

Q39. Perfect gas के लिए internal energy depend on:-

- a) T, S, C b) T, H, C c) T d) T, P, C

Q40. Incase of boyle's law, if pressure increase by 1% The % decrease in volume is:-

- a) 100/101% b) 101/100% c) 1/100% d) 0%

Q41. Critical Temperature for water:-

- a) 323°C b) 347°C c) 374°C d) 373°C

Q42. Open system में:-

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- a) Mass Boundary cross नहीं करेगा व heat भी
- b) Both mass & heat cross boundary
- c) Mass cross boundary पर heat नहीं
- d) None

Q43. Const pressure पर work है:-

- a) 0
- b) $P(v_2 - v_1)$
- c) $P(v_2 + v_1)$
- d) $P(v_2 \div v_1)$

Q44. Second law of thermodynamics deal with:-

- a) Work
- b) Energy
- c) Enthalpy
- d) Entropy

Q45. Change of entropy depends upon:-

- a) Change of mass
- b) change of temperature
- c) change of heat
- d) none

Q46. Gas equation is:-

- a) $PV=RT$
- b) $PV=mRT$
- c) $PV=C$
- d) $PV=C$

Q47. Relation b/w C_p & C_v :-

- a) $C_p - C_v = R/J$
- b) $C_p/C_v = \gamma - 1$
- c) $C_p/C_v = J/R$
- d) $C_p + C_v = J$

Q48. What will be the volume of air at 327°C if its volume at 27°C is 1.5 m^3

- a) 3 m^3
- b) 15 m^3
- c) 6 m^3
- d) 10 m^3

Q49. Heat pump operated with condenser temperature 27°C and evaporator temperature -23°C तब cop:-

- a) .2
- b) 1.2
- c) 5
- d) 6

Q50. Unit of entropy:-

- a) J/KgK
- b) Nm/Kg sec
- c) J/Kg
- d) N/sec

Q51. Sensible heat is the heat heeded to:-

- a) Vaporise water into steam and vice versa
- b) change of temperature of a liquid or vapour
- c) Convert water into steam
- d) measure dew point temperature

Q52. एक Heat pump कि cop 4 है जो Reversed carnot cycle पर कार्य कर रहा है, तथा उसे 1KW work input देता है, तब उसका effect होगा:-

- a) 1
- b) 2
- c) 3
- d) 4

Q53. Refrigeration system work on:-

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- a) Zeroth law of thermodynamics
- b) first law of thermodynamics
- c) Second law of thermodynamics
- d) None

Q54. For adiabatic process:-

- a) $T_2/T_1 = (P_2/P_1)^{\gamma / \gamma - 1}$
- b) $T_2/T_1 = (P_2/P_1)^{\gamma - 1 / \gamma}$
- c) $T_2/T_1 = (P_2/P_1)^{1 / \gamma - 1}$
- d) $T_2/T_1 = (P_2/P_1)^{\gamma + 1 / \gamma}$

Q55. For a process, $\oint (\delta Q - \delta W) =$

- a) +ve
- b) -ve
- c) 0
- d) none

Q56. A Heat engine develops 60KW, Efficiency is 60% then rejected Heat Amount is:-

- a) 400 Kw
- b) 10 Kw
- c) 40 Kw
- d) 20 Kw

Q57. A Heat engine receives 1120 KJ heat rejected 840 KJ with two temperature limits 560K & 280K. The engine is:-

- a) Reversible
- b) Irreversible
- c) Impossible
- d) None

Q58. Change in entropy for a natural process will be:-

- a) 0
- b) +ve
- c) -ve
- d) None

Q59. Throttling is..... process:-

- a) Reversible
- b) Irreversible
- c) Adiabatic
- d) Isothermal

Q60. Entropy change depends on:-

- a) mass transfer
- b) Pressure transfer
- c) Heat transfer
- d) Volume transfer

Q61. Carnot cycle has:-

- a) one reversible adiabatic and one reversible isothermal
- b) Two isothermal and two Adiabatic
- c) A & B
- d) None

Q62. $n=1$ then process is:-

- a) Adiabatic
- b) Reversible
- c) Irreversible
- d) Isothermal

Q63. $(p + a/v_2)(v - b) = RT$ है:-

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a) Vander wall equation b) maxwell equation c) Real gas equation d) ideal gas equation

Q64. An Isothermal process is governed by:-

a) Boyle's law b) Charles law c) Reynold no d) Nobel's law

Q65. Super Heated vapour behave:-

a) a gas b) As steam c) As ordinary vapour d) Approximatrlyas a gas

Q66. Correct is:-

a) $H = \Delta V + w$ b) $\Delta U + H + w$ c) $W = H + \Delta V$ d) $H = W / \Delta v$

Q67. Gibbs function is :-

a) $G = H + TS$ b) $G = H - TS$ c) $G = U + TS$ d) $F = U + TS$

Q68. Relation b/w (cop) H.P & (op)_R :-

a) $\text{Cop) HP} + \text{Cop)R} = 1$ b) $\text{Cop)HP} - \text{Cop)R} = 1$
c) $\text{Cop)R} - \text{Cop)HP} = 1$ d) $\text{Cop)HP} - \text{Cop)R} = 0$

Q69. Gibbs phase rule is:-

a) $F = C + P$ b) $F = C + P - 2$ c) $F = C - P - 2$ d) $F = C - P + 2$

Q70. Work done by isothermally:-

a) $MRT_1 \ln P_2/P_1$ b) $r/r-1 p_1 v [(p_2/p_1)^{r-1/r} - 1]$
c) $MC_p(T_2 - T_1)$ d) $MRT_1(1 - T_2 - T_1)$

Q71. True for irreversible process:-

a) $dQ = dv + pdv$ b) $dQ = Tds$ c) $Tds = du + pdv$ d) None